

Serial No. 09/911,585
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Amendments To the Claims:

Please amend the claims as shown. Applicants reserve the right to pursue any canceled claims at a later date.

1.-17 (canceled)

18. (currently amended) A method for programming motion controllers, wherein graphical elements, comprising control structures and function blocks, are linked using a graphical editor to form a motion control flowchart represented on a display device, comprising the steps of:

providing a plurality of structured text subprograms; and

converting the structured text subprograms to a plurality of corresponding graphical elements comprising function interfaces corresponding to the respective structured text subprogram; and

providing the corresponding graphical elements as an expanded library of the graphical elements of the graphical editor.

19. (previously added) The method according to claim 18, further comprising the steps of:

- a) generating a structured textual language from the flowchart,
- b) converting the structural textual language in a processor-independent pseudo-code,
- c) loading the processor-independent pseudo-code into the controller,
- d) converting the processor-independent pseudo-code into executable processor code.

20. (previously added) The method according to claim 18, wherein programming language commands are provided in the flowchart editor as a function of the associated hardware configuration.

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21. (previously added) The method according to claim 18, wherein the graphical elements are provided as programming language elements of the motion control flowchart.
22. (previously added) The method according to claim 18, wherein the structured text subprograms comprise structured text according to IEC 6-1131.
23. (previously added) The method according to claim 22, further comprising the step of switching between three forms of representation, the forms selected from the set consisting of structured textual language, contact plan and function plan.
24. (previously added) The method according to claim 18, wherein at least one programming language command selected from the group consisting of loop and parallel branch programming language commands is provided in motion control flowchart notation.
25. (previously added) The method according to claim 24, wherein a parallel branch is provided and individual commands are initiated in a given interpolator cycle within respective parallel branches.
26. (previously added) The method according to claim 18, wherein parameters are set for the function blocks via a mask input in motion control flowchart notation.
27. (previously added) The method according to claim 18, comprising the further steps of combining function blocks into modules, and representing the modules as function blocks in motion control flowchart notation.
28. (previously added) The method according to claim 27, modules are interleaved in motion control flowchart notation.
29. (previously added) The method according to claim 18, further comprising the step of assigning, in motion control flowchart notation, multiple variables in function blocks.

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30. (previously added) The method according to claim 18, wherein function blocks that represent functions requiring a period of time, comprise step-enabling conditions in motion control flowchart notation.
31. (previously added) The method according to claim 18, wherein the graphic elements of the flowchart are positioned automatically.
32. (previously added) The method according to claim 18, wherein the graphic elements of the flowchart are linked together automatically.
33. (previously added) The method according to claim 18, wherein the flowchart is displayed in a form comprising one form selected from the group consisting of an enlarged form and a reduced form:
34. (previously added) The method according to claim 18, wherein recompiling in motion control flowchart notation is possible by means of marks in the textual language.
35. (new) The method according to claim 18, wherein the text subprograms are provided by third parties and the conversion to graphical elements is performed automatically.
36. (new) The method according to claim 18, wherein the conversion is performed by a compiler.
37. (new) A method for programming motion controllers, wherein graphical elements, comprising control structures and function blocks, are linked using a graphical editor to form a motion control flowchart represented on a display device, comprising the steps of:
 - providing a plurality of structured text subprograms; and
 - converting the structured text subprograms to a plurality of corresponding graphical elements comprising function interfaces corresponding to the respective structured text subprogram, wherein

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at least one programming language command selected from the group consisting of loop and parallel branch programming language commands is provided in motion control flowchart notation and wherein

a parallel branch is provided and individual commands are initiated in a given interpolator cycle within respective parallel branches.

38. (new) A method for programming motion controllers, comprising:
- providing a flowchart editor;
 - linking graphical elements by use of the flowchart editor to form a flowchart; and
 - generating graphical elements from user-defined textual subprograms by a converter, the generated graphical elements comprising function interfaces for the corresponding textual subprograms, and are adapted to expand the library of the flowchart editor with corresponding icons.